

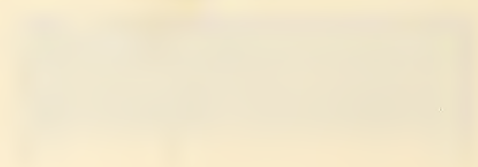
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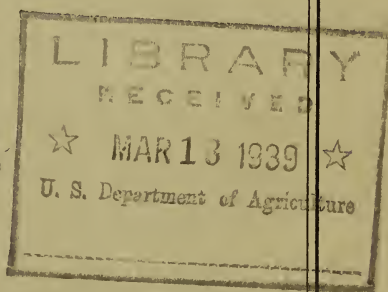
February 1939

**HOUSING REQUIREMENTS OF
FARM FAMILIES IN THE
UNITED STATES**

By

MAUD WILSON

Collaborator in Housing
Bureau of Home Economics





FOREWORD

Many farmhouses in this country have "just grown." Too few rural houses are designed to meet the needs of farm families and too many are built without regard to modern ideas of comfort and convenience.

Farm-housing requirements vary from place to place. Few families may want and need exactly the same things in house design. But the same climate and types of farming in certain regions form a common denominator that can be applied to basic features in planning farm housing, even at fairly low-cost levels.

This report suggests desirable features of comfort and convenience in farmhouses. It is based on opinions and facts sent in by many farm homemakers and extension workers about housing in their communities. These suggestions woven together in what may seem at first glance as very definite form are not meant to be in any sense the final word. They are intended first of all to stimulate constructive thought toward better designs, and we hope may prove a beginning to which all those interested in better housing will contribute.

LOUISE STANLEY,
Chief, Bureau of Home Economics.

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By MAUD WILSON, *collaborator in housing, Bureau of Home Economics*¹

INTRODUCTION

Recent studies of farm housing indicate that only a small proportion of rural families in the United States live in houses that have most of the features desirable for family life.

In part this comes from the fact that the farm family often does not use the services of an architect in building a new house or in remodeling an old one. The farm family usually gets ideas from houses already built, from catalogs, bulletins, and magazines, and often leaves decisions of major importance to the carpenter or contractor. Many of the architects who create the published designs and the builders who modify them do not have the training to adapt such plans to a particular situation. Many of them also do not have the intimate knowledge of farm life necessary to understand the housing needs of the farm family and how these needs differ in various parts of the country.

This bulletin is prepared as an aid to designers and property owners in planning low-cost farmhouses, though it is recognized that many of the features suggested cannot be put into farmhouses built at the lower cost levels. However, all farmhouses should provide shelter and space for cooking, eating, sleeping, child care, leisure activities, storage, household tasks, and certain kinds of work that are more or less peculiar to farm life.

Naturally, farmhouse requirements vary in different parts of the country. But the finish of the house, the number of rooms, and the amount of equipment provided are not so important as the provision of adequate space, efficiently planned, and the suitability of arrangements to the specific requirements of the farm family on its own farm in its own locality.

The basic data have come from studies of farm family living, and from reports of several Government agencies. Two studies were made in 1934 with Civil Works Administration funds by the Bureau of Home Economics and the Extension Service of the United States Department of Agriculture in cooperation with the States.

¹ This study was made possible through the courtesy of the Oregon State Agricultural Experiment Station, which granted Miss Wilson leave of absence for the time necessary to complete this project. Acknowledgment is also made to O. E. Baker, senior agricultural economist, Bureau of Agricultural Economics, for his aid in defining and describing the 14 regions basic to this discussion of requirements for farmhouses.

One of these studies had to do with the functions of the farmhouse; the other was a study of storage requirements. In the study of functions of the farmhouse, 497 county home demonstration agents in 44 States recorded on a questionnaire the prevailing opinions of farm homemakers regarding various housing needs and practices. Replies on storage needs were received from 2,294 homemakers in the same counties.

A further source of information was a report of the committee on minimum standards of the extension division of the American Home Economics Association summarizing opinions of homemakers and home economists from 30 States concerning the relative utility of various housing features. The homemakers are the women who cooperate with county home demonstration agents; that is, largely middle-class farm women—wives of small owners, renters, and year-round laborers.

Inferences regarding the use of time by farm homemakers were drawn from studies made by the Bureau of Home Economics in cooperation with various State agricultural experiment stations.

The division of the United States into regions varying in housing requirements is based on information supplied by the State home demonstration leaders of 44 States, on published reports of the Weather Bureau and the Bureau of Agricultural Economics of the United States Department of Agriculture, and the Bureau of the Census of the United States Department of Commerce.

NEED FOR SPECIAL PLANNING OF FARMHOUSES

All over the country there are new farmhouses that look like urban houses. This acceptance of urban designs indicates an improved standard of comfort among rural people, but it sometimes results in serious inconvenience to the farm family. Though rural and urban families of similar economic status have similar ways of living and similar standards of housing, there are special characteristics of farm life that require consideration in the design of dwellings.

If a farmhouse becomes unsuitable, the family occupying it cannot move to another, as people do in cities. The house is attached to the land, and the suitability of the farm does not necessarily have anything to do with the house. A small house in time will not provide enough space for a growing family. Then, as children grow up and leave home, a large house may be troublesome and inefficient for the smaller family. The normal cycle of the farm family should therefore be considered in planning the farmhouse.

Fluctuations of income always affect standards of living. Farm people, during periods of low income, produce more of what they use than in prosperous times and lower their cash expenditures. Farmhouses should therefore be planned so that operation costs can be reduced when income is low. This means primarily some provision for cutting off a portion of the house when heating the entire house is impracticable, and that storage facilities should be adequate for periods when production for home use is relatively extensive.

The orientation of the farmhouse is different from that of the city house. The front entrance of the city house, which usually faces the street, is the most important; but the side and back entrances

of a farmhouse, conveniently located in relation to the farm drive and other buildings, are more frequently used.

Farmhouses generally require more space for household activities than city houses. More of the food is generally prepared in the farm home, and large supplies of staples and preserved food must often be stored. Most of the family eat three full meals a day at home. In many sections of the country the farm help are lodged and fed in the farm dwelling. Crews of men must occasionally be served. Except on commercial dairy and poultry farms, some handling of dairy and poultry products is usually done in the farmhouse. Vegetables and fruits are canned; meat is prepared for curing; the family laundry and some sewing are usually done at home.

The house also serves as the business center of the farm enterprise. The farmer carries on his correspondence there, keeps his records, stores his papers, and conducts business interviews. The farm telephone is a business telephone, and the passenger car is also a business vehicle. Business activities have a bearing on the location of the house, the planning of entrances, the provision of storage facilities, and the type of heating.

Not only are more kinds of work done in the farmhouse than in the city house, but also more social and leisure activities are carried on there. Rural life does not usually afford many outside facilities for amusement. For a great part of their leisure time, especially during the winter months, farm families must provide their own amusement in the living areas of the house. The farm family to a greater extent than the city family lives together as a group. These characteristics of family living need to be considered in planning the farmhouse.

GENERAL REQUIREMENTS OF FARMHOUSES

CONSTRUCTION AND ORIENTATION

In most sections of the United States, well-built houses are necessary for the greatest comfort. In the northern part of the country, tight construction is important as a defense against cold and to reduce fuel costs; in the South, it serves to exclude the heat in summer; and in the arid regions, it is necessary as a protection against heat, wind, and dust.

The modern trend in design seems to be in the direction of compactness. This is suitable and usual in regions of extreme cold, because of the expense of heating and the desirability of having both working and living areas under shelter and close together. In regions where the winter cold is not so severe the cost of modern conveniences often exacts economy in space. The lack of household help common in most sections of the country does away with the need for separating the living and work areas of the house and dictates a house design primarily convenient for the homemaker. However, in the warmer parts of the country, where household help is more generally available, compactness of design is not so important. In fact, there the less compact house is more suitable, because it permits thorough ventilation.

Proper orientation of a farmhouse on its site depends on the relative values of comfort in winter or in summer, and of convenience in

respect to the location of other buildings, the farm driveway, and the public highway. If there is a conflict, then proper orientation in relation to the sun and the prevailing winds usually takes precedence over the others in regions of extremes of climate. In the colder sections of the country, winter comfort is generally of most importance. The house is so oriented that the living and work areas receive the benefit of the winter sun and are sheltered from storms by the rest of the house. On the other hand, summer comfort should receive careful thought in regions of long periods of heat. Bedrooms and porches used in summer should be so placed as to catch the summer breezes.

ROOM USES

While it seems desirable that a farmhouse should have at least six rooms—kitchen, dining room, living room, and three bedrooms—in order to accommodate its various functions, the actual number of rooms is not so important as their size, their planning, the storage facilities and equipment provided, and the possibility of maintaining accepted standards of warmth, cleanliness, and order. Often a house of fewer rooms will be satisfactory, particularly for a small family on a small farm. In fact, an elaborate house on a small farm is economically unsound, if the family living in it is dependent on the farm exclusively for income. On the other hand, small houses are frequently designed for farms of potential income great enough to support large families in comfort. In the original design of such houses there should be basic provisions capable of expansion as the size of the family and the farm income increase. Such basic plans are available through the Department of Agriculture and the State colleges of agriculture.

The small farmhouse designed to accommodate a growing family should provide three places in which the family can sleep—one for the parents, one for the girls, and one for the boys. On the first floor there should be toilet facilities and a room that can be used as a bedroom for the care of sick children, invalids, or elderly persons. The kitchen should be large enough to accommodate the cooking for the family at its maximum size.² Dining spaces should also be adequate for the family at its largest as well as for hired help. Thought should be given also to a play place downstairs for young children. The design of the small farmhouse should anticipate future expansions and also the possibility of closing off part of the house when all the space is not needed.

Some information on the preferences of farm homemakers regarding room arrangements for houses of less than six rooms was collected by a committee of the American Home Economics Association.³ Three possible ways of using the rooms were suggested for four-room houses, and four for five-room houses.

According to this study, a plan for a four-room house that provides a combined kitchen and dining room, a living room that can also be used as a bedroom, and two bedrooms, is appropriate for

² The average number of occupants per occupied farm dwelling, as reported in the Agricultural Census for 1935, ranged from 3.51 in California to 4.99 in North Carolina. These figures include all occupants, whether related to the head of the family or not, but they do not indicate variations in size throughout the normal cycle of the farm family.

³ AMERICAN HOME ECONOMICS ASSOCIATION, EXTENSION SECTION. REPORT OF HOUSING COMMITTEE. 11 pp. 1936.

all sections of the country, except, possibly, the Southeast. There the preference seems to be for a separate kitchen with combined living and dining room.

Preferences in arrangements of a five-room house were not so clear-cut. Roughly, west of the Rocky Mountains, homemakers favored a plan including a combined living and dining room, a kitchen, and three bedrooms; while east of the Rocky Mountains the preferred plan provides a separate kitchen, a dining room, a living room, and two bedrooms.

Opinion was definitely against using one room for kitchen, dining room, and living room. Little interest was shown in a plan for a five-room house so arranged that one of the rooms might serve either as a dining room or as a bedroom.

Time studies indicate that ironing and sewing are usually done in the afternoon, particularly in families that have small children or children in school. In general practice, women who do their own work finish their routine housekeeping in the morning and leave what might be called portable work for the afternoon. The farm home-maker performs many of these tasks in the living room or the dining room. Therefore, the farmhouse living room should be large enough and of suitable design to accommodate such activities. Farm homemakers prefer a sewing alcove and closet located off the dining room or living room to a sewing room upstairs.

ENTRANCE PROTECTION

The purposes of entrance protection are to keep mud, snow, rain, dust, and wind out of the house; to prevent chilling of the interior; and to provide safety and convenience to persons entering or leaving the house.

It is more important to protect the service entrance of a farmhouse than the front entrance, because it is more used. Guests seldom come to the house during bad weather; and whenever they come, it is customary for them to use the family entrance. Therefore, it is desirable to locate the service entrance on the side of the house that is sheltered from storms. Where vestibules or entries are needed, it is more important to have them at the service entrance than in the front. If the laundry or workroom is on the first floor, it may serve also as an entry.

A roof is sufficient in areas where the chief need for entrance protection is against rain and sun. However, a storm door or entry is desirable in areas of extreme cold or extreme heat. Where rooms are closed in the daytime during periods of intense heat, an entry or vestibule is an added protection against the outside temperature. The nuisances of sand, dust, and mud are partially controlled by the use of entries or vestibules.

DOORS AND WINDOWS

Doors and windows should be placed so as to provide a natural circulation of air. In very warm climates it is important to place the doors and windows so that there may be a draft through each room and through the whole house. In more temperate climates,

with periods of extreme heat in summer, such ventilation is desirable but not so important as to be a primary feature of design.

In regions of high summer humidity larger wall openings are needed for air circulation than for light. In these areas it is advantageous to provide ventilation partly by doors or by wall panels that can be removed or opened instead of by glass windows. Window sills should be low; there should be transoms over the doors and windows, and ceiling fans are desirable. Wide eaves, porches, shutters, awnings, venetian shades, and blinds protect the windows from heat and glare.

HEATING

The kind of fuel available and the cost have important bearing on the types of heating arrangements suitable in different parts of the country. No heating arrangement that continuously requires the purchase of fuel in large amounts is compatible with the income or the management of a large percentage of farm homes. Even if wood is produced on the farm or in the vicinity, the time required to cut and split it must be considered. Where fuel is an important item of expenditure, tight construction, storm windows, insulation, and weather stripping help to reduce the heating costs. In cold climates such provisions may reduce heating costs 50 percent or more.

Throughout the northern part of the country in houses that have running water and bathrooms, a central heating system is almost a necessity to protect the plumbing from freezing. Although it is not so necessary in other regions, it adds greatly to the efficiency of the house by making it possible to carry on routine activities in all the rooms without having to wear extra clothing.

Homemakers all over the country have expressed strong sentiment in favor of a fireplace in the living room. Fireplaces are much used in the southeastern part of the country, where the winters are cool rather than cold. A desirable heating arrangement for small houses in this area includes a circulating heater in the hall that connects bedrooms and bathroom, and fireplaces in the living room and the parents' bedroom.

In all except the very warmest sections of the country, no matter what the supplementary cooking arrangements may be, homemakers seem to prefer a coal or wood range in the kitchen. This may be because it is the cook stove they know best or because it provides economical heat for the kitchen.

The supplementary arrangements for warm-weather cooking vary from kerosene, fuel oil, gasoline, or bottled-gas stoves to manufactured or natural gas or electric ranges where these fuels are available.

The demands of farm living generally require that the living room should be warm all day during the part of the year when men do not have much outside work and warm in the afternoon and evening during spring and fall.

The dining area should be warm at mealtimes. The bathroom should be warm enough for bathing at night and on Saturdays and Sundays. Enough heat should be supplied to the bedrooms for the family to dress comfortably in them except during periods of extreme cold.

The kitchen should be warm throughout the day, although there is usually a slack period between 2 and 5 p. m. when the temperature can be allowed to fall.

Because of the physical activity necessary in washing, and the use of hot water, the temperature of the laundry does not need to be high, but the room should be warm enough for the homemaker to be comfortable with no more extra clothing than a light sweater.

A washroom for men should be comfortably warm at the times when it is needed for hired help. The place where chore clothes, school clothes, and play wraps are kept should have enough heat to dry them overnight.

If there is a preschool child, a place should be kept warm for him throughout the day, whether he plays in the dining room, the living room, a downstairs bedroom, or a corner of the kitchen.

The room or pantry where perishable foods are kept must always be above freezing temperature.

SANITARY FACILITIES

The cost of equipping farmhouses with modern sanitary facilities is influenced by such factors as the height of the water table, the quantity and fluctuations of local water supply, and the protection required to prevent pipes from freezing.

According to the results of the study⁴ by extension workers, farm homemakers wish to have such facilities as a kitchen sink, a bathtub, a lavatory, and a laundry tray with drains, even if they cannot have piped water, because the drains at least reduce the labor of carrying water. They place piped cold water far ahead of piped hot water because water can easily be heated on the cook stove.

Their evaluation of sanitary facilities, in descending order of preference, is (1) a kitchen sink with a drain; (2) cold water piped to the kitchen sink, or a pump at the sink; (3) a bathtub with a drain; (4) cold water piped to the bathtub; (5) a flush toilet; (6) a lavatory with a drain; (7) cold water piped to the lavatory; (8) a shower; (9) hot water piped to the bathtub; (10) hot water piped to the kitchen sink; (11) hot water piped to the lavatory; (12) a laundry tray with a drain; (13) cold water piped to the laundry tray; (14) hot water piped to the laundry tray; (15) a sink in the workroom, with a drain; (16) cold water piped to the workroom sink; (17) hot water piped to the workroom sink; (18) a sink or lavatory, with drain, for the men's washroom; (19) cold water piped to the men's washroom; and (20) hot water piped to the men's washroom.

SERVICE AREAS

The planning of the service areas of a farmhouse is influenced by such factors as climatic conditions, the kind and amount of food produced for home use, the kind of fuel used, the type of farm enterprise and the scale of operation, the practicability of basements and cellars, the amount and type of household help, and the use of community facilities.

⁴ See footnote 3, p. 4.

To the majority of farm homemakers, except in the southeastern part of the country, the kitchen is a family room where meals are usually served, where children play, and where neighbors are often received. The standards of upkeep and appearance are high.

In most rural communities the homemaker does the laundry herself, and prefers to do the washing in a suitable place outside the kitchen. Also, some provision for drying clothes without serious interference with the normal functions of the household is important in regions of long periods of inclement weather. For houses having neither basement nor attic, a small drier supplied with enough heat to dry the clothes overnight is almost a necessity.

Homemakers generally consider the kitchen a suitable place in which to iron. But instead of a fixed ironing board they seem to prefer a portable board that can be taken to another room near the radio or out on a porch in warm weather.

Most homemakers do not consider it necessary to provide space for canning fruits and vegetables outside the kitchen, unless unusually large quantities of food are handled and the processing is done in tins. If tins are used, the processing and cooling vats are usually set up in a separate building, in the basement, or out in the yard.

It is highly desirable to have some place other than the kitchen in which to cut up meat and render lard. Since this work is done in cold weather, artificial heat is necessary for the comfort of the workers. Space for long tables and a stove for rendering lard are required.

If dairying is only one of several farm enterprises, it usually falls to the lot of the homemaker to wash the separator and milk utensils. On such farms it is frequently necessary to combine the laundry and the separator room, and to wash the milk utensils at the kitchen sink. When this is done the sink must be large enough for the handling of milk cans. A preferable arrangement is a special sink in the workroom for dairy work and a place to keep milk utensils, as well as dishpans and cloths that are used for no other purpose.

On farms with small poultry flocks the homemaker is usually responsible for packing the eggs and preparing the poultry for market. The place for these tasks should be preferably a part of the dwelling, and it must be cool in summer and warm enough in winter for the worker's comfort.

A utility room adjoining the kitchen is increasingly popular as a combined laundry and workroom for preparing farm produce.

In regions of extreme cold and long periods of stormy weather it is customary to have workrooms, food-storage rooms, and also the garage attached to the house. However, even in these regions, many homemakers prefer to have the special work areas separate from the house to avoid odors, noise, flies, and dirt. Also, the fire hazard from cars and trucks housed near the dwelling often influences the home owner to build a separate garage regardless of climate.

STORAGE FACILITIES

Minor equipment and supplies are logically stored near the place where they are needed, whether in the yard, on a porch, in the basement, or in the kitchen. Also keeping them out of sight adds to the appearance of a dwelling. Homemakers in all parts of the country

prefer built-in kitchen cabinets, closed for appearance's sake and for protection against dust.

The care of perishable foods is perhaps the most acute storage problem in the farmhouse. For satisfactory summer storage a refrigerator is almost a necessity, especially in the far South. In sections of the country that have low summer humidity, draft coolers installed as part of the kitchen cabinet are common. In other sections perishable foods are stored during warm weather in spring-houses, cellars, or basements. With the extension of power lines and a tendency toward reduction of rural rates, the use of electric refrigerators in farmhouses is increasing. Therefore plans for farmhouses in all parts of the country should include space for a refrigerator in or near the kitchen. Provision should be made also in most farmhouses for the cool-weather storage of perishable foods whether or not refrigerator space is included. If there is little danger of freezing, a draft cooler or a porch cabinet solves the problem.

For houses without cellar or basement, in sections where the winters are more severe, an insulated and ventilated storage pantry is desirable. Such a pantry will also accommodate small quantities of potatoes, apples, cured meat, and other long-keeping foods, as well as canned foods. Since canned foods are clean and odorless, they should be stored in the dwelling for the convenience of the homemaker. Foods preserved in glass need a storage place that is not only cool, dark, and dry but also protected from freezing. Naturally, the space required depends upon the quantity of food customarily canned, which varies in accordance with family needs and with the growing season for fresh fruits and vegetables. A preliminary study of home canning shows that little canning is done in California and the far South, whereas a great deal is done in the Pacific Northwest and in the fruit-growing sections of the eastern-central part of the country.

The storage space needed for stone jars, crocks, kegs, and barrels also depends upon the prevalence of their use. It is estimated on the basis of a study of storage requirements that less than one-half of the farm households of the country use kegs and barrels for the storage or preservation of food.

Provision must be made on most farms for storing considerable quantities of such foods as cured meat, apples, potatoes, and winter vegetables. Plans for this type of storage are influenced by the amount of protection needed against changes in temperature and humidity, the convenience of the homemaker in bad weather and of the farmer who puts these products away, and the nuisance of odors and dirt. In the colder regions homemakers appreciate the convenience of a place that can be reached without their having to put on wraps; but in regions where the winters are mild, homemakers consider the odors and dirt more objectionable than the inconvenience of outside storage. If outside storage is provided, there should also be room in the pantry for a few days' supply of these foods. The cost of installing adequate and satisfactory storage for large supplies of long-keeping foods is high. Good plans and specifications, however, are available through the Department of Agriculture and the extension services of the various States. The development of community rather than individual storage facilities is gaining in popularity, especially in regions where small farms predominate.

Storage facilities needed for fuel, screens, storm windows, outdoor play equipment, and garments vary also with climate. Temperature and the amount of rain or snow govern both the use of these items and the kind of protection required. In regions where there is much snow and rain, fuel should be stored under cover and convenient to the house. A suitable place is needed to store screens and storm windows alternately, if the longest possible use is to be obtained of them. This is true also of such outdoor play equipment as bicycles, scooters, skis, skates, and sleds.

Where heavy garments are required, they must be protected against moths in summer, and in winter they should be hung in a warm dry place. In damp, warm climates many fabrics must be protected against mildew. Ideally, there should be separate places for the hanging of work clothes and ordinary outer garments.

USE OF BASEMENT

Climate and topography are the deciding factors in the economical use of basements. In order that a basement may be satisfactory for all uses it should be waterproof and light and there should be some provision for heating in all sections of the country except the far South. The stairs should be well lighted, safe, and easy to use.

Despite the inconvenience of having to go up and down basement stairs, the advantages of such a room are many in regions where the cost of construction is not excessive. If the basement is used for a workroom as well as for storage, many unattractive jobs of the farmhouse are kept out of sight. The living areas of the house on the first floor are more easily provided with adequate ventilation and light because work and storage rooms can be eliminated from the back. And the back yard can be made more attractive because some of the jobs ordinarily done there can be transferred to the basement.

Many uses for a basement other than for the furnace and storage of fuel are reported by home demonstration workers in various parts of the country. It provides space for the drying of clothes in bad weather, for the storage of canned foods and winter vegetables, and for canning operations. In parts of the country where it is necessary to feed large crews of men occasionally during warm weather, the cooking for these crews is frequently done in the basement, and sometimes meals are served there. On farms where poultry is a minor enterprise, the basement often serves as an incubator room, and provides space for the dressing of poultry for market and for the handling of eggs. Likewise on farms where dairying is not a major enterprise, the homemaker may take care of milk and butter in the basement, and it is a good place to cut up and salt meat and make sausage. In the colder regions the basement is often used as a farm workshop in winter, and if adequately lighted, heated, and ventilated, provides an excellent playroom for children. In some parts of the country it is not infrequently used as living and sleeping quarters in hot weather.

DINING AREAS

The allowance of dining space, whether in kitchen or dining room, should be liberal. Since most farm families put all the food for a meal on the table at one time in large dishes, the dining table needs

to be large. There should be ample room around it for passage and moving of chairs.

If the kitchen includes dining space it should be segregated from the work area occupied by the sink, stove, and work table and placed preferably in a well-lighted corner or end of the room.

In addition to the dining space in the kitchen, the opinion of homemakers throughout the country is favorable to a separate dining room, even if it is used only for special occasions. They think that a dining room is worth while for convenience in entertaining guests, for the improvement of family morale, and for the training of children. However, in a low-cost house, it is not economically sound to provide both dining space in the kitchen and a dining room. A decision should be made before the house is planned in favor of one arrangement or the other. In the southern part of the United States, the farmhouse dining room is generally used for all family meals.

Dining porches are popular in sections of the country where there is prolonged hot weather but little dust. In order for an outside dining area to be completely usable, it should be protected from sun, summer storms, and flies. Greater comfort might be found at less expense within the dwelling if insulation and some means of forcing air to circulate were provided. If there is a dining porch or terrace, it should be conveniently located with reference to the kitchen in order to save extra steps in the serving of meals.

BUSINESS AREA

The room or area used as a farm office must serve primarily as a depository for business papers, records, instruction books, and correspondence. For this purpose a desk, a closet, or a cabinet near a table will do. However, the farmer, in carrying on his business, may also have to keep certain records, write letters, receive buyers and agents, and instruct employees. Farm homemakers are decidedly in favor of a room set aside for these business activities, not only because it is more convenient for the farmer but also because it segregates farm business from routine household activities.

A farm office located in the dwelling should be placed on the side of the house convenient to the farm drive and buildings. The telephone is not usually located in the office but in a part of the house easily reached by the homemaker as she goes about her duties during the day.

PROVISIONS FOR CHILD CARE

Climate is very important in determining the housing needs of children, since it largely determines the amount of time they spend in the house. Small children must play constantly within sight of the mother, in a place that is warm and safe. It is convenient for the mother of small children to have toilet facilities and a bed on the first floor near the kitchen. In regions that have long periods of inclement weather a special playroom is highly desirable, particularly for rough and noisy play.

There should also be a safe, fenced place in the yard in which small children can play, preferably within sight of the kitchen windows.

Need for protection from sun, dampness, and mud varies with climatic conditions. For older children, an ordinary farm with animals, trees, and streams leaves little to be desired in outdoor play resources.

INDOOR SLEEPING ARRANGEMENTS

The favored location for the parents' bedroom is on the first floor. In the Southeast the parents' bedroom, furnished as a bedroom with a double bed, is generally used as a living room also, if there is no other living room in the house. In other sections the combined bedroom and living room is furnished with a couch or davenport instead of a bed, and this room used as a bedroom only when other sleeping space is insufficient.

It is seldom that bedrooms are required for household employees, and rural households do not usually include more than one family. If hired men are lodged in the family dwelling, their sleeping quarters are usually on the second floor. On large farms of specialized agriculture, employees are lodged in individual dwellings or bunkhouses.

PROVISIONS FOR LEISURE ACTIVITIES

Entertaining guests is a major social activity of the rural family. Provision must also be made for the individual's leisure activities, such as reading, studying, listening to the radio, or following a hobby. The ideal farmhouse would provide sufficient rooms, large enough and properly furnished, for social gatherings, family groups, and the pursuit of individual interests. The importance of such indoor provisions varies according to the length of the outdoor work season and the distance of the farm from community centers.

The center of leisure activities is naturally the living room. Farm homemakers consider a davenport or couch the most important large piece of furniture in a living room. Many of them also consider a writing desk and a piano essential. Therefore, in planning a living room for a farmhouse, it is well to allow wall space for all three.

Pianos are more common in farm homes than in urban homes of similar economic status. They may be a symbol of achievement rather than an indication of musical talent, but the nature of rural social life undoubtedly encourages the use of the piano by amateurs.

Local custom regarding the place of group meetings influences the size of the living room appropriate to the farmhouse. However, a living room that will accommodate 25 persons for local gatherings is rather generally considered adequate. Homemakers approve of providing for table games, but the majority do not favor provision for dancing.

Since the growing of house plants is a usual interest of rural women, it is wise to provide for it in planning the farmhouse. A sunny window in the living room or the dining room especially designed for plants is a source of great pleasure to the whole family as well as to the homemaker. This window should not, of course, be the only window in the room from which the outside view can be seen. Returns from a study of functions of the farmhouse indicate that space is needed for as many as 10 or 15 plants in a farmhouse in any

section of the country except the far South. This number of plants would naturally entail space for starting and repotting, in the basement, workroom, or some other allotted place.

PROVISIONS FOR OUTDOOR LIFE

Special provisions for outdoor living are not so important in the country as in the city, as the duties of farm life require that active members of the family spend a large part of the day outdoors. The yard should be planned to provide space for clotheslines protected from dust, a place within sight of the kitchen windows in which small children can play in safety, and a shady place in which the family can rest in warm weather. A work porch off the kitchen is highly desirable in all parts of the country. Aside from these considerations, it is wiser to put money into tight construction, insulation, window space, and fans than into porches, terraces, and spacious grounds.

The farm family does not use a living porch in the evening as much as the urban family in the same climate because the interval between the end of the workday and bedtime is short. However, there is a trend toward shorter workdays on the farm, and a front porch or stoop is an integral part of most architectural designs in this country. A paved, uncovered terrace, in the sun and sheltered from the wind, encourages outdoor living for older people, invalids, and small children. In a two-story house an upper deck or balcony is always desirable. It serves as a fire escape; it is convenient for airing mattresses and bedding; and it can be used as a sleeping porch.

The design and use of sleeping porches depend on the duration of the periods of hot nights, the possibility of sudden storms, and the usual night temperature. There is apparently no region in which sleeping porches are preferred to bedrooms for year-round use for the entire family. Young people often like to use sleeping porches throughout most of the year; whereas adults prefer bedrooms even in the warmest weather. In regions where summer nights are hot, humidity is low, and rains are infrequent, families often prefer to sleep out in the open. In such a climate, house roofs, terraces, and uncovered decks are suitable for sleeping quarters, and comfortable outdoor beds fitted with mosquito nets and some sort of easily adjusted waterproof protection are desirable.

Homemakers in all sections of the country consider a screened work porch highly desirable. Many tasks, such as preparing vegetables and poultry, washing, and ironing can be done on a porch in warm weather in greater comfort than in the kitchen. However, except in the Southwest and the southern part of Florida, this porch will not take the place of a workroom, because in all other sections of the country there are times of the year when all household tasks must be done indoors.

All porches on which food is handled should be screened as a sanitary measure. Other porches should be screened according to the necessity of protection from flies, mosquitoes, and other insects in the seasons during which the porches are used.

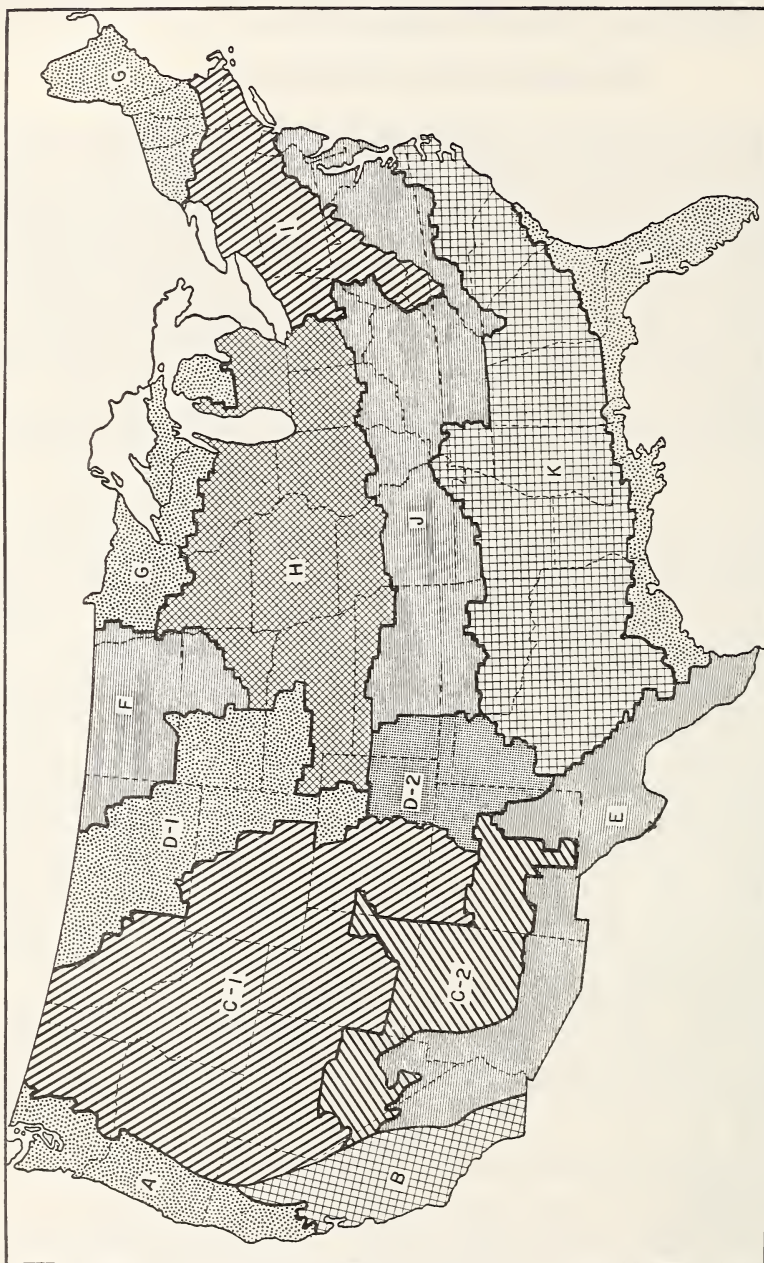


FIGURE 1.—Regions of variation in housing requirements of farm families in the United States.

REGIONAL VARIATIONS IN HOUSING REQUIREMENTS OF FARM FAMILIES

There are undoubtedly large areas in the United States where the States or counties have similar environmental factors that influence farm housing. One step toward the improvement of rural housing is a clearer delineation of these areas and an understanding of their needs. Figure 1 shows a tentative division of the United States into 14 regions varying in farmhouse needs.

This division of the United States is based on data on climate, major land uses, size of farms, and types of farms. The home demonstration leaders of 44 States cooperated in designating the boundaries of areas within their States that were dissimilar in housing needs. Publications of the Weather Bureau and the Bureau of Agricultural Economics of the United States Department of Agriculture, and the Bureau of the Census of the United States Department of Commerce were utilized in the preparation of this map. In addition, experts of the Department of Agriculture and various State agricultural colleges contributed their advice and criticism to its preparation. Boundaries were placed along county lines.

The following pages summarize briefly certain factors associated with variations in housing requirements of farm families and include a description of each region. The features of farmhouses are based on opinions and preferences expressed by farm homemakers in the various regions and on the observations of home economists long resident in the areas from which they sent reports.

This list of features, it is hoped, may aid the designer of a farmhouse for a given region in two ways: (1) In making provision for specific housing requirements of a farm family in that region and (2) in evaluating housing features from the standpoint of conditions in the regions when the limitation of cost does not permit the inclusion of all desirable features.

Under "storage," reference to facilities for the winter storage of long-keeping foods is omitted because there are wide variations within the regions in materials stored, and these facilities are usually not a part of the dwelling proper unless they are included in the basement.

In speaking of specific housing features, gradation in value is indicated by the terms "should be provided," "important," or "needed," and "desirable."

The heading "preferable room uses in small houses" refers to the data collected by extension workers.⁵ For each region there are listed the arrangements receiving the largest number of votes from cooperators in that region.

REGION A

North Pacific forest, hay, and pasture region, excluding the Sierra Nevada portion in California

Climate.—Cold season: Much rain, much cloudy weather, cool temperature. Warm season: Short periods of heat, low humidity, little rain, cool nights.

⁵ See footnote 3, on page 4.

Major land uses.—Pastures, hay, forage, wheat, oats, barley, fruit, truck, root crops, and forest products.

Description of farming.—Farming in this region is confined chiefly to the valley lying between the Cascade and Coast Ranges and to the narrow coastal plain. The land is level to rolling with some cleared, steeply rolling areas in the foothills. The soils are poor to good, with a little excellent soil in the river deltas after drainage. The climate is characterized by very wet but mild winters and dry, moderately warm summers. Little rain falls during the 3 summer months. The principal type of farming is dairying, based on an almost year-round pasturage and on hay crops. There are many poultry farms, usually small in area, using feed grain purchased from the Great Plains and other grain-producing regions. Small fruits are also important, and there is some commercial production of apples, cherries, and pears, the last particularly in the Rogue River Valley.

Occupational status of families and types of farm enterprise.—Most of the families in this region are those of owner-operators of diversified, dairy, fruit, truck, and poultry farms. There are some renters and also year-round and seasonal laborers.

Type of house.—Most of the houses are frame structures averaging about five rooms. The smaller houses have but one story, but houses of more than four rooms usually have the attic floor finished for bedrooms. Roofs are steep in a rainy country, hence attics are roomy.

Frame construction is probably the most economical, owing to the abundance of timber. Houses should be tightly constructed, although compactness of plan, insulation, and other provisions for conserving heat are not so important as in the other northern regions. Farm help is usually of the same social status as the farm family and is frequently lodged in the dwelling.

Preferred room uses.—Four-room house: Kitchen-dining room; living room, used also as a bedroom when needed; two bedrooms. Five-room house: Kitchen-dining room, living room, three bedrooms, or kitchen, living-dining room, three bedrooms.

Protection of interior.—Houses should have double walls and floors. Weather stripping, double windows, and insulated ceilings and walls are desirable.

Entrance protection.—The minimum desirable protection for any entrance is a roof over the door. A closed entry or hall for the rear entrance is important.

Heating.—A circulating heater is satisfactory for the compact well-built house. If central heat is not provided, the living room, dining room, and bathroom should have some means of individual heating. This heat may come from stoves in living room and dining room or from fireplaces supplemented by overflow heat from a stove in an adjoining room. Overflow heat alone from adjoining rooms equipped with stoves is sufficient for bedrooms, halls, washroom, and laundry. In fact bedrooms that are not used as sitting rooms need not be heated. The most common arrangement for heating the kitchen and for cooking is a coal or wood range. A supplementary stove using electricity, gas, or liquid fuels is desirable for warm-weather cooking.

Dining areas.—A dining area should be provided in the kitchen for use by the family, with room for several guests or regular hired men. There should also be dining space outside the kitchen for use on special occasions.

Laundry.—Provision should be made for drying clothes indoors. The area provided for laundry work should be weathertight.

Storage.—Fuel should be stored under cover. Proper provision should be made for the hanging of damp outer clothing. Draft coolers in the kitchen-cabinet installation are commonly used for the storage of perishable foods. Since home canning is customary, there should be provision for the storage of canned foods. It is estimated that a family of from four to six persons in this region cans annually the equivalent of 400 to 500 quart jars of food.

Play space for small children.—Space to play indoors is needed, and an open porch or a play shed is desirable. There should also be an outdoor paved or graveled surface for use during rainy weather, as well as a grassy surface.

Porches, decks, and terraces.—A portico or other provision for the loading and unloading of cars under cover is needed. Outdoor sleeping quarters are satisfactory in summer, but they need not be roofed. A work porch for summer use and a living porch are desirable. One or the other of these would be useful for dining on occasionally and as a play space for children. Sleeping, dining, and work porches should be screened.

REGION B

Pacific subtropical crops region, plus Sierra Nevada portion of the North Pacific region

Climate.—Cold season: Mild; heavy to light precipitation (the former in the mountains, the latter in desert areas); much sunshine, except in mountains. Warm season: Long periods of heat except near coast and in mountains; low humidity, little rain (usually none in valleys).

Major land uses.—Range, hay, wheat, oats, barley, fruit, truck, cotton, root crops, with forest products on the mountains. Fruit, truck, and cotton are mostly irrigated.

Description of farming.—Most of the population in this region live in the valleys or in the foothills. The land is level to gently rolling in the valleys and steeply rolling in the foothills. Soils are fair to good. There is a little excellent land in the valleys and elsewhere, owing frequently to heavy fertilization and other improvements. The climate is mostly Mediterranean in character; that is, mild, moderately moist winters with prolonged, dry summers, very hot in the interior and moderately cool near the coast. Fogs generally penetrate about 10 miles inland and are most frequent in summer. A few days with temperatures below freezing generally occur in most parts of this region several times during the winter, but it is seldom that the temperature falls as low as 20° F. The dominant type of agriculture is fruit growing—citrus fruit in the more favored locations climatically, with other fruits, principally peaches, apricots, prunes, and pears, generally in the foothills and in some valleys. Also

grapes, truck crops, walnuts, and almonds are grown extensively. Some cotton is produced. There are numerous dairies.

Occupational status of families and types of farm enterprise.—Families in this region are mostly those of owner-operators on dairy, grain, fruit, truck, and poultry farms, and of year-round and seasonal farm laborers. In 1930 the year-round and seasonal laborers were more numerous than the farmers. Tenants are less numerous, as dairy, fruit, and poultry farms are not well suited to tenancy.

Type of house.—Bungalows and houses with a patio are common. They average about five rooms and usually have but one story. There are many building materials suitable for this area. Wood, stucco, and concrete are used extensively, and adobe is found in some sections. The early California ranch house and Spanish mission may well serve as precedents for architectural style, as they are both indigenous and well suited to climatic and living conditions. Standards of living are generally high except among farm laborers. The number of farmhouses having electric lights and bathrooms is very large in comparison with most other parts of the country. Summer comfort is important in planning the orientation of a house.

Protection of interior.—Houses should have double walls and floors, insulated ceilings, and protection from glare. Insulated walls and solid shutters are desirable.

Entrance protection.—A roof over the front entrance is desirable but not necessary. A roof over the rear entrance should be provided and a closed entry is desirable.

Heating.—All rooms need some heat at some seasons of the year. For living and dining rooms this should be direct heat. Fireplaces are satisfactory in these rooms only when supplemented at times, for instance by overflow heat from an adjoining room equipped with a stove. Such overflow heat is adequate for bedrooms, bathrooms, and washrooms. In the kitchen a coal or wood range is satisfactory for cold weather if supplemented by a stove that will not heat the room in warm weather. Where electricity is available a combination electric range with coal- or wood-burning heater section is satisfactory.

Dining areas.—One of the following arrangements will suit most situations in region B: (1) A dining area in the kitchen used regularly by the family with space for from one to three extra persons, some other dining space for use on special occasions, and a dining porch used regularly during warm weather with the same seating capacity as the dining area in the kitchen. (2) A dining room used for all meals in cool weather and a dining porch used for all meals in warm weather (no meals served to farm laborers). (3) A dining space in the kitchen for household help and possibly a small number of farm laborers, with a dining room for all family meals.

Storage.—Draft coolers, built as parts of the kitchen-cabinet installation, are commonly used for the protection of perishable foods. An average family of from four to six persons requires storage space for between 200 and 300 quarts of canned foods.

Play space for small children.—A safe place out on the ground is all that is necessary, but a special place in the house, such as a play-room or space in the basement or attic properly heated, ventilated, and lighted, is desirable.

Porches, decks, and terraces.—Accommodations for outdoor living are widely used in this region. A screened work porch for summer use is especially useful, and it is desirable that this porch be designed for year-round use. Outdoor sleeping quarters, with or without a roof, are almost necessary in summer. If properly designed and screened, a sleeping porch can be used throughout the year. A screened dining porch is a great convenience and can be used continuously during warm months of the year. Living porches and terraces are also desirable.

REGION C-1

Northern grazing and irrigated crops region, including the Columbia Plateau wheat region and excluding the Great Plains

Climate.—Cold season: Cold, light precipitation except snow on the mountains, much cloudy weather. Warm season: Generally low humidity, cool nights, little rain, except on higher plateaus and mountains.

Major land uses.—Pastures and range, hay, forage, wheat, oats, barley, fruit and truck locally, and forest products in the mountains.

Description of farming.—This is more or less a desert region, with subhumid conditions existing on many of the mountains and some of the higher plateaus. The largest of these semiarid to subhumid plateaus is the Columbia Plateau of eastern Washington, northeastern Oregon, and the Panhandle of Idaho, which is predominantly an area of wheat production. Most of the grazing and irrigated crops region has a high elevation and the winters are cold, while the summer season is short. Exceptions are the Salt Lake oasis and the valleys of the Columbia and Snake Rivers, also of the tributaries of the Colorado River, where the seasons are longer and the winters milder. The dominant type of agriculture is the grazing of cattle and sheep in the mountains during the summer and on the deserts during the winter. A considerable number of livestock are fattened in the irrigated sections. There are a few isolated farmhouses in the open desert, but the tendency of the people is to cluster in settlements and villages, especially in the irrigated sections, and everywhere in Utah.

Occupational status of families and types of farm enterprise.—Owner-operators predominate in this region, with some renters. Many farms are diversified—hay, grain, some dry-land crops, fruit and truck farms (mostly irrigated), and livestock and wheat ranches. There are some seasonal and year-round laborers. The former are on wheat and fruit farms; the latter are on stock ranches especially.

Type of house.—Bungalow and box types of one-story houses are prevalent in this region. There is no indigenous style of architecture, and there is need for improvement in design. Although most of the houses are of frame construction some are of log, brick, or concrete. They average about five rooms. Compactly planned houses are suitable because they are more economical to construct and to heat. Many people in this region are accustomed to modern conveniences. More farmhouses have electric lights and bathrooms than in most other parts of the country. Livestock and wheat ranches provide the

most distinctive types of housing. Frequently the owner lives in a nearby town or village and the main house on the ranch is designed to house employees. If the owner lives on the ranch, employees are generally lodged in bunkhouses. Great consideration should be given to winter comfort in planning the orientation of farmhouses in this region.

Preferred room uses.—Four-room house: Kitchen-dining room; living room, used also as a bedroom when needed; two bedrooms. Five-room house: Kitchen; living-dining room; three bedrooms.

Protection of interior.—Double walls and floors are very important. Weather stripping and ceiling and wall insulation are really needed. Storm windows are desirable; also protection of the windows from glare.

Entrance protection.—The minimum protection needed for the front entrance is a covered stoop or porch and a storm door. An entry is desirable. A covered stoop or porch and a closed entry or hall should be provided for the rear entrance. Outside stairs to basement or second story should be covered with a roof and either completely enclosed or protected on the storm side.

Heating.—Central heat is desirable in this region. Central heat or a stove in the room is essential for the living room, dining room, and bathroom, and is desirable for the bedrooms and the men's washroom. These latter rooms should have at least overflow heat from adjoining rooms. Halls and the laundry can be satisfactorily warmed by overflow heat, but the kitchen must be well heated in winter. The most common arrangement is a coal or wood range supplemented by another cook stove for use in warm weather.

Dining areas.—One of the following arrangements will suit most situations in region C-1: (1) A dining area in the kitchen used regularly by the family, with room for seating from one to three extra persons, and some other dining space for use on special occasions. (2) A dining space in the kitchen and a dining room, as in the first arrangement, and a dining porch large enough to accommodate crews of men. (3) A dining space in the kitchen, as in the first arrangement, and a dining room large enough to accommodate crews of men. (4) A dining space in the kitchen used by household help and occasionally by the family, and a dining room used regularly for farm laborers as well as for family and guests. (5) A combination dining and living room for the family, and a combination dining and living room for farm laborers.

Laundry.—The laundry area should be weathertight and there should be provision for drying clothes indoors.

Storage.—There should be a warm, dry place in which outer garments can be hung when not in use during cold weather. Perishable foods are usually kept in draft coolers in summer. A family of from four to six persons requires storage space for between 300 and 400 quarts of canned food.

Play space for small children.—Young children should have a safe place to play out on the ground and either a playroom or space in the basement or the attic. It is also desirable to provide an open porch or other covered play space outdoors.

Porches, decks, and terraces.—A work porch for summer use is needed, and dining porches are used in summer. It is important that

both be screened; if there is a living porch, it also should be screened. Screened sleeping quarters for summer use and terraces on which to enjoy the winter sun are desirable. A portico or other place in which cars can be loaded and unloaded under cover is a convenience.

REGION C-2

Arizona-New Mexico high plateaus

Climate.—Cold season: Cold, little precipitation, much sunshine. Warm season: Long periods of heat, low humidity, cool nights, generally little rain, except a few thundershowers in July and August.

Major land uses.—Pastures, range, hay, and forage.

Description of farming.—This region includes the high plateaus of northern Arizona and adjacent portions of New Mexico, Utah, and Nevada. The winters are therefore much more severe than the southerly latitude would suggest, and the summers, outside the river valleys, are comparatively cool. The rainfall is light, comes mostly in a few thundershowers in midsummer, and is insufficient except in a few small areas for the production of crops without irrigation. The principal crops are corn, hay, and beans. Grazing, however, is generally the major source of income. A large proportion of the population in this region is Indian and Mexican.

Occupational status of families and types of farm enterprise.—The families in this region are mostly those of owner-operators and renters on diversified farms and grain farms (corn mostly), both dry land and irrigated; and of livestock ranchers. There are a few year-round and seasonal laborers.

Type of house.—The pueblo type of house with thick adobe walls and flat roof is characteristic, but there are actually more small frame houses of the box and bungalow types. Brick, log, and stone houses are also found. The house on a livestock ranch may be designed for employees, the family of the owner living in town. If the owner lives in the ranch house, the employees are lodged in bunkhouses. Houses should be tightly constructed because of the cold winters, and plans for orientation should also take this into consideration.

Preferred room uses.—Four-room house: Kitchen-dining room; living room, used also as a bedroom when needed; two bedrooms. Five-room house: Kitchen; living-dining room; three bedrooms.

Protection of interior.—Houses should have double walls and floors, insulated ceilings, solid shutters, and protection from glare. Weather stripping and insulated walls are desirable.

Entrance protection.—A roof over the front entrance is not necessary, but a closed entry is desirable. The rear entrance should have a covered stoop or porch and a closed entry or hall. Outside stairs should be roofed and enclosed entirely or at least on the storm side.

Heating.—Direct heat is needed in the living room and bathroom. In the absence of central heat or individual stoves in these rooms, fireplaces, in the living and dining rooms, should be supplemented by heat from some other source, such as overflow heat from a stove in an adjoining room. With adequate heating arrangements for these rooms overflow heat from them is sufficient for bedrooms, halls, washroom, and laundry.

The arrangement in most common use for the kitchen is a coal or wood range with a supplementary cook stove for use in warm weather or a kerosene range for all-year use. Unless the cook stove acts as a heater some other means of heating the kitchen must be provided. With a central heating plant this may be a radiator or register, or overflow heat from the adjoining rooms may be sufficient.

Dining areas.—One of the following arrangements for dining areas is suitable for a farmhouse in this area: (1) A dining area in the kitchen used regularly by the family, with space for seating from one to three extra persons; some other dining space for use on special occasions; and a dining porch used regularly during warm weather by the family and large enough to accommodate the same number of persons as the kitchen dining space. (2) A dining space in the kitchen and a dining room, as in the first arrangement, and a dining porch large enough for crews. (3) A dining space in the kitchen, as in the first arrangement, and a dining room for use in serving large crews. (4) A dining space in the kitchen used by the household help or occasionally by the family and a dining room used regularly for farm laborers as well as for the family and guests. (5) A dining room used for all meals in cool weather and a dining porch used for all meals in warm weather (no meals served to farm laborers). (6) A combination dining and living room for the family and a combination dining and living room for farm laborers.

Storage.—Draft coolers are used for the summer storage of perishable foods. The amount of canned food put up averages between 300 and 400 quarts for a family of from four to six persons.

Play space for small children.—A safe place out on the ground is all that is necessary during most of the year. In the winter, indoor play space is desirable.

Porches, decks, and terraces.—Outdoor sleeping quarters for summer use are needed. These may be without a roof. Porches for general use and occasional dining are also needed. A work porch for summer use is desirable. All porches should be screened.

REGION D-1

Northern Great Plains region, excluding the Corn Belt and Spring Wheat Belt

Climate.—Cold season: Cold, little precipitation, much wind. Warm season: Low humidity, cool nights, occasional rains, much wind.

Major land uses.—Range, hay, wheat, oats, barley, and corn.

Description of farming.—This is a region of arid and semiarid climate with most of the rainfall coming in the warmer half of the year and with most of the agriculture based on grazing cattle and sheep. However, this region includes many important dry-land and irrigated sections. It is in general a region of cold winters and mild to warm summers. The lowest temperatures in the United States have been recorded in the Montana portion of this region. The characteristic lay of the land is long, gentle slopes. However, there are many rough badlands, bordering the river valleys, and almost flat areas in river bottoms. The principal crops are hay and small grains (wheat, oats, barley, and rye), with some corn in the warmer valleys. Most of the

people live in cities and villages, and in the dry-land areas houses on remote cattle ranches are separated a mile or more.

Occupational status of families and types of farm enterprise.—Families in this region are mostly those of owner-operators and renters on livestock and dry-land grain farms, with a few homesteaders, and farmers on irrigation projects. There are seasonal laborers and some year-round laborers on livestock ranches.

Type of house.—One-story frame houses of the bungalow and box types with no architectural pretensions are characteristic. Ranch houses are sometimes large and comfortable. Houses average about five rooms. No precedent exists for any architectural style. Low, one-story houses probably reflect the character of the country better than two-story houses. Pleasing designs for farmhouses suitable to this region should be developed and popularized. A much smaller proportion of the houses on farms than in towns and villages have modern conveniences. Construction should be tight because of the extreme cold of the winters. The cost of building is therefore high, but basements are relatively economical. Winter comfort is very important in planning the orientation of the house.

Preferred room uses.—Four-room house: Kitchen-dining room; living room, used also as a bedroom when needed; two bedrooms. Five-room house: Kitchen; living-dining room; three bedrooms.

Protection of interior.—Double walls and floors, insulated ceilings and walls, weather stripping, and storm windows are very important. Protection of windows from glare is desirable but not essential.

Entrance protection.—The minimum desirable protection for the front entrance is a covered stoop or porch and a storm door. An enclosed entry or hall is very important for the rear entrance. Outside stairs need a roof and protection on the storm side.

Heating.—It is desirable that all rooms should have direct heat. Central heat is the most efficient means of heating houses in this region; otherwise numerous stoves must be kept going. If economy is necessary, bedrooms, men's washroom, and laundry may be warmed by overflow heat from adjoining rooms. Some provision must be made for heating the kitchen in cold weather either by central heating or a stove. In warm weather it is equally desirable to have a cook stove that will not heat up the kitchen. If a wood or coal range is used in winter an additional stove for cooking only is desirable for summer use.

Dining areas.—In this region a dining area in the kitchen is considered sufficient for farms on which few laborers are employed. Other suitable arrangements are (1) a dining area in the kitchen used regularly by the family with space for seating from one to three extra persons, and a dining room for use on special occasions; (2) a dining space in the kitchen, as in the first arrangement, and a dining room large enough for the accommodation of crews; (3) a combination dining and living room for the family and a combination dining and living room for farm laborers.

Laundry.—The area where laundry is done should be weathertight, and there should be a place for drying clothes indoors.

Storage.—It is important that heavy outer garments be hung in a warm, dry place in winter. Since storm windows are used generally, provision should be made for their storage in summer. Perishable

foods are kept during warm weather in cellar or basement. Not a great deal of space is required for the storage of canned foods. The average amount for a family of from four to six persons is between 200 and 300 quarts.

Play space for small children.—In the house there should be a play-room on the main floor or space properly heated, ventilated, and lighted in the attic or the basement. Beyond safety, special provisions for outdoor play are not essential. However, it is desirable that there should be a covered place, such as an open porch, and a surfaced space without a roof.

Porches, decks, and terraces.—Provisions for outdoor living are not important in this region, as the period of their usefulness during the year is limited. However, certain features are desirable, such as sleeping quarters for use in summer, a living porch, a work porch for summer use, and a portico or other covered place where cars can be loaded and unloaded. Work porch, living porch, and sleeping porch should be screened.

REGION D-2

Western portion of the hard winter wheat region and much of the southern portion of the Great Plains

Climate.—Cold season: Moderate temperatures, occasional cold waves, much sunshine, much wind. Warm season: Long periods of heat, low humidity, occasional rain, much wind.

Major land uses.—Range, forage crops, wheat, oats, barley, grain sorghum, and corn.

Description of farming.—This is a region where dry-land wheat, sorghum, or cane production and grazing are intermingled. It contains also a considerable area of irrigated land in the Arkansas River Valley. In general, the land lies from 3,000 to 6,000 feet above sea level. Much of it is remarkably level except for an imperceptible slope, and the soil is high in essentials of fertility except moisture. Low temperatures occasionally occur during the winters, but most of the winter days are clear, pleasant, and only moderately cold. The summers are quite warm. Along the southern border of this region cotton is grown, but the growing season is short for this crop. A large proportion of the people live on their farms, and as the land has been longer settled than on the northern Plains and more wealth has accumulated, the houses are more substantial. The so-called "Dust Bowl" lies in the center of this region, and here considerable deterioration in buildings and land has occurred.

Occupational status of families and types of farm enterprise.—Families in this region are mostly those of owner-operators and renters on diversified and grain farms, homesteaders, farmers on irrigation projects, livestock ranchers, and seasonal laborers.

Type of house.—Small, one-story frame houses of the ubiquitous bungalow and box types prevail, although houses built of logs, adobe, stone, and concrete are also found. Low, one-story or story-and-a-half houses are suitable throughout most of the area. They should be compact and substantially built for economical construction and heating. There is the same need for improvement of design in this region as in region D-1. Standards of living were fairly high prior

to the drought. Farm help is usually lodged in the family dwelling.

Preferred room uses.—Four-room house: Kitchen-dining room; living room, used also as a bedroom when needed; two bedrooms. Five-room house: Kitchen, living-dining room, three bedrooms.

Protection of interior.—Weather stripping is very important. Double walls and floors, insulated ceilings, and protection from glare are needed. Other desirable features are insulated walls, storm windows, and solid shutters.

Entrance protection.—For the front entrance, a covered stoop or porch is needed, and, if not provided, a storm door is important. For the rear entrance, a covered stoop or porch is the minimum provision, and an entry or hall is most desirable. Outside stairs should be completely enclosed.

Heating.—Heat must be provided for all areas used in cold weather. Direct heat is desirable for living room, dining room, and bathroom. Heating of bedrooms and halls is not absolutely necessary.

The arrangement in most common use for the kitchen is a coal range with a supplementary stove for summer use or a kerosene stove for use all year round. In the latter case heat must be provided for the kitchen by an additional heating stove or by overflow heat from an adjoining room.

Dining areas.—In this region a dining area in the kitchen is considered sufficient for many of the farms on which few laborers are employed. However, a large dining room for the accommodation of special crews of men as well as for family use is desirable.

Laundry.—The space for laundry work should be weathertight, and provision for drying clothes indoors is needed.

Storage.—In warm weather perishable foods are kept in cellars and basements. Space is needed for the storage of between 200 and 300 quarts of canned food for a family of from four to six persons.

Play space for small children.—Play space indoors and on a porch is desirable.

Porches, decks, and terraces.—A work porch for summer use and a place in which to unload cars under cover are desirable.

REGION E

Lower and middle Rio Grande Valley and plateaus of southern New Mexico and southern Arizona

Climate.—Cold season: Mild, little precipitation, much sunshine. Warm season: Long periods of heat, low humidity, hot nights, little rain, except in mountains.

Major land uses.—Range, hay, cotton, fruit, truck, and small grain crops.

Description of farming.—This is a desert region lying generally at a lower elevation than Region C-2 and characterized by a sparse population deriving its subsistence from the grazing of cattle and sheep, with cotton, alfalfa, grain, and fruit grown in the irrigated areas. Most of the people live in a few cities, notably Phoenix and Tucson, Ariz.; El Paso and the cities of the lower Rio Grande Valley in Texas. It is a region of mild winters with occasional low temperatures, sometimes falling as low as 10° F. and still lower in the mountains. In certain favored sites, principally the Salt River Valley and

the lower Rio Grande Valley of Texas, citrus fruits are grown. Farms are few in this region and many of the owners live in the cities or villages. Probably more than half of the rural houses are for the accommodation of Mexican or Indian labor.

Occupational status of families and types of farm enterprise.—Families in this region are mostly those of owner-operators on cattle ranches and on irrigated fruit, truck, and cotton farms. There are also many year-round and seasonal laborers.

Type of house.—Bungalows and houses with patios are popular. The Indians and Mexicans usually live in flat-topped adobe houses. The open, rambling type of plan affords the greatest comfort. Early ranch houses, Spanish mission, and pueblo architecture are well established types, and may within reason serve as precedents for modern houses. Summer comfort is of very great importance in planning the orientation of a house.

Preferred room uses.—Four-room house: Kitchen-dining room; living room, used also as a bedroom when needed; two bedrooms. Five-room house: Kitchen; living-dining room; three bedrooms.

Protection of interior.—Houses should have double walls and floors, insulated ceilings and walls, solid shutters, and means of protecting the interior from glare. Weather stripping is desirable but not so important as the other features. Windows should be so placed as to permit thorough circulation of air.

Entrance protection.—For the front entrance, no special protection is necessary. For the kitchen entrance a covered stoop or porch is sufficient.

Heating.—Artificial heat is necessary in only the living and dining rooms, and these two rooms may very well be heated by fireplaces with overflow heat from the kitchen. Either the fireplace alone, or the overflow heat alone is sufficient to satisfy minimum requirements. It is desirable that the bathroom and washroom should be warmed by overflow heat. No arrangement for heating the kitchen is necessary. If a coal or wood range is used, there should be a supplementary gas or electric stove for use in summer.

Dining areas.—One of the following arrangements for dining is suitable for a house in region E: (1) Dining area in kitchen used regularly by family and with space for seating one to three occasional guests or hired men employed the year around; some other dining space for use on special occasions; dining porch regularly used during warm weather by family and occasional guests or one to three hired men. (2) A dining room for all meals in cool weather, and a dining porch for all meals in warm weather (no meals served to farm laborers). (3) A dining space in the kitchen for household help and possibly for a small number of farm laborers, and a dining room for all family meals. No large crews are fed.

Laundry.—Special provisions are not important, as the washing is usually done in the yard.

Storage.—The care of perishable foods in summer is a problem in this region. House plans should provide a space in or near the kitchen for a refrigerator. Very little canning is done; therefore, provision for the storage of canned foods is relatively unimportant.

Play space for small children.—The only necessary provision is a safe place on the ground.

Porches, decks, and terraces.—Provision for outdoor living is appropriate to this region. There should be a living porch, a screened work porch for summer use, and outdoor sleeping quarters for summer use. A screened dining porch is also convenient. When money is available, the following features are desirable: Screened living, dining, sleeping, and work porches for year-round use; roofless sleeping quarters; and a terrace.

REGION F

Spring Wheat Belt

Climate.—Cold season: Cold, little precipitation, much wind. Warm season: Cool nights, mild days, and enough rainfall normally for crop production.

Major land uses.—Wheat, oats, barley, rye, pastures, hay, forage, and corn, especially for silage.

Description of farming.—This is a region of subhumid farming based on the production of spring grain, mostly wheat, with considerable numbers of cattle in the drier valleys and on the less specialized farms. Topography is, in general, level to gently rolling except for the breaks along the rivers. The winters are very cold, having the lowest average temperature for January in the United States. The summers are mild but rather short, in general too short for the commercial production of corn except for silage. Nevertheless, the corn-and-hog system of farming is pushing in along the southeastern margin of the region.

Occupational status of families and types of farm enterprise.—Families are mostly those of owner-operators and renters on small grain and stock farms. There are many seasonal and some year-round laborers.

Type of house.—Frame houses of tight construction with more than one story and five or six rooms are characteristic. Architectural style is not based on precedent, and comfort and livability are the most important factors in the designing of farmhouses. Basements are relatively economical. Winter comfort is of the greatest importance in planning the orientation of the house. It is customary for farm help, who are usually of the same social status as the family, to be lodged in the family dwelling.

Preferred room uses.—Four-room house: Kitchen-dining room; living room, used also as a bedroom when needed; two bedrooms. Five-room house: Kitchen; dining room; living room, used also as a bedroom when needed; two bedrooms.

Protection of interior.—Practically all devices for making the house weathertight, such as weather stripping, storm windows, double walls and floors, and insulated walls and ceilings are greatly needed. Protection of the windows from glare is also desirable but not essential.

Entrance protection.—For the front entrance a covered stoop or porch and a storm door are the minimum desirable protection and an entry is desirable. For the kitchen entrance an entry is necessary. Outside stairs should have a roof and be enclosed either on the storm side or entirely.

Heating.—Houses with plumbing need central heat. If this is not possible, it is desirable that all rooms have individual stoves or room heaters. Bedrooms, washrooms, and laundry should at least receive overflow heat from adjoining rooms. A coal or wood range with a supplementary cook stove for warm-weather use makes the best heating and cooking arrangement for the kitchen. If a coal or wood stove is not used, the kitchen must be heated by some other means.

Dining areas.—One of the following arrangements is suitable: (1) A dining area in the kitchen used regularly by the family, with space for seating from one to three extra persons, and some other dining space for use on special occasions. (2) A dining space in the kitchen, as in the first arrangement, and a dining room for use in serving large crews.

Laundry.—The space planned for laundry work should be weather-tight, and provision should be made for drying clothes indoors.

Storage.—Fuel should be stored under cover. Provision for the proper care of heavy outer garments in summer and in winter is important. Screens must be stored in winter and storm windows in summer. In summer perishable foods are usually kept in cellars and basements. Little home canning is done, therefore provision for the storage of foods need not exceed space for 300 quarts for a family of from five to six persons.

Play space for small children.—Because of the severity of the winters, special thought must be given to providing some suitable indoor place for children's play, such as a playroom, or space in the basement or the attic, if well heated, ventilated, and lighted. There should also be a safe place out on the ground for use in good weather. A sheltered place under a roof outdoors is also desirable.

Porches, decks, and terraces.—There is need for a space in which cars can be loaded and unloaded under cover. A work porch for summer use is desirable, and it should be screened and open on at least two sides.

REGION G

Northern portion of the dairy region

Climate.—Cold season: Cold, generally much snow, much cloudy weather. Warm season: Moderate humidity, low evaporation, rather frequent rains.

Major land uses.—Pastures, hay, oats, barley, corn for forage or silage; fruit, truck, potatoes and root crops, and forest products.

Description of farming.—This is a region of humid climate with generally long, cold winters and short, mild summers. The growing season is longer near the large bodies of water. The dominant product is milk, based on hay, pasture, and grain, the latter brought mostly from the Corn and Spring Wheat Belts. Potatoes also are an important crop, particularly in northeastern Maine, and in this State there is also considerable production of apples and sweet corn. The New England portion was settled more than a century ago, but in sections of the northern Lakes States settlement is still in progress. There are many Scandinavians and Finns especially in the western part of the region.

Occupational status of families and types of farm enterprise.—Except for a few renters most of the families are those of owner-operators on dairy and diversified farms, fruit, truck, and potato farms, and settlers on cut-over land. There are also year-round laborers.

Type of house.—In New England many of the houses are over 50 years old and they are generally large, more than one story, averaging eight or nine rooms in some sections, of good architecture, built of wood, and connected with the barn by a woodshed or tool house. No finer architectural precedent exists and, while style should be governed by existing conditions rather than by precedent, the early New England house is usually adaptable to modern living.

In the Lake States, although frame construction is very prevalent, there are some very good examples of the use of native stone among the earlier farm houses, which might well serve as an inspiration for modern dwellings. These houses usually have more than one story and six or seven rooms, although smaller houses are characteristic of the more recently settled areas. Houses are not generally connected with the barn.

Winter comfort is of great importance in planning the orientation of houses in all this region. Houses should be compact and tightly constructed. Basements are usual because they are relatively economical. It is customary for farm help, who are usually of the same social status as the farm family, to be lodged in the family dwelling.

Preferred room uses.—Four-room house: Kitchen-dining room; living room, used also as a bedroom when needed; and two bedrooms. Five-room house: Kitchen; dining-room; living room, used also as a bedroom when needed; two bedrooms.

Protection of interior.—Weather stripping, insulated walls and ceilings, and double walls and floors are very important. Storm windows are also needed. Protection of windows from glare is desirable.

Entrance protection.—For the front entrance, a covered stoop or porch and a storm door are the minimum protection desirable, and an entry is desirable. For the rear entrance, an entry is necessary. Outside stairs should be roofed, and it is desirable that they be entirely enclosed and essential that they be enclosed on the storm side.

Heating.—Central heat is almost necessary for houses with plumbing. If central heat is not practicable, individual stoves or room heaters of some kind should be provided for the living room, dining room, and bath. For bedrooms, washroom, and laundry, the minimum warmth necessary can be provided by overflow heat from adjoining rooms. A coal or wood range and a supplementary stove for use in warm weather provide the best means of heating the kitchen and cooking. Some additional source of heat in the kitchen is necessary in winter if a coal or wood range or a central heating plant is not used.

Dining areas.—One of the following arrangements will be found suitable: (1) A dining space in the kitchen used regularly by the family, with space for seating from one to three extra persons, and some other dining space for special occasions. (2) A dining space in the kitchen and a dining room, as in the first arrangement, and a dining porch large enough to accommodate special crews.

Laundry.—Special provision should be made for drying clothes indoors. The kitchen is considered a suitable place in which to do the washing more generally in this region than in other parts of the country. However, over half of the preferences expressed by homemakers were for another room on the first floor.

Storage.—Fuel should be stored under cover. Screens must be stored in winter, and storm windows in summer. Proper care of heavy outdoor garments in summer and in winter is important. Perishable foods are generally kept cool in summer in cellars, basements, springs, running water, and with ice cut locally. The storage of canned foods is not an important problem, as an average family of from four to six persons cans only between 200 and 300 quarts a year.

Play space for small children.—Special provision for the play of small children in winter is important because of the cold and snow. There should be a place set apart in the house—a playroom or a suitable space in the basement or attic. A safe place in the yard is adequate for outdoor play in good weather, but a surfaced space is necessary when the ground is damp. A covered place outdoors is also desirable but not necessary.

Porches, decks, and terraces.—A place in which to load and unload cars under cover is needed. A dining porch for occasional use and a work porch for summer, both screened, are desirable, and should be open on at least two sides.

REGION H

Corn Belt and southern portion of the Lakes States Dairy Belt

Climate.—Cold season: Cold, ground generally covered with snow in northern portion, much cloudy weather. Warm season: Long periods of heat, frequently high humidity, warm nights, usually frequent rains.

Major land uses.—Corn, wheat, oats, barley, hay, pastures, and forage; and locally, fruit, truck, and potatoes.

Description of farming.—This region is the very heart of American agriculture. It is characterized by the best land and the most productive commercial farming in the Nation. The climate is moderately cold in winter, in the northern portion quite cold, but the summers are warm and moderately moist. Corn is, to some extent, cut for silage along the northern border, and is sometimes cut green for feed along the western border. The lay of the land is generally level to rolling and well adapted to large-scale crop production. The soils are mostly fertile, relatively high in lime and phosphate, and in the prairie portion high also in humus and nitrate. Dairying is the dominant type of farming in the northern and eastern portion; and corn, hogs, and cattle in the central, southern, and western portions.

Occupational status of families and types of farm enterprise.—Most of the families are those of owner-operators and renters on fairly large farms, generally using much machinery. There are also many year-round and some seasonal laborers.

Type of house.—Both large and small houses are characteristic of different parts of this region. Those in the Dairy Belt are generally

larger than those in the Corn Belt portion. The size of the house is influenced more by the tenure of the land than the size of the farm. Frame houses of more than one story are typical, but there are many brick houses over 50 years old. Houses should be compact and tightly constructed. Basements are relatively economical. While winter comfort is important, allowance should be made for the fact that summers are often very warm. It is customary for the farm help, most of whom are of the same social status as the farm family, to be lodged in the family dwelling.

Preferred room uses.—Four-room houses: Kitchen-dining room; living room, used also as a bedroom when needed; and two bedrooms. Five-room house: Kitchen-dining room; a room which may be used as either a bedroom or a dining room; living room; two bedrooms.

Protection of interior.—Weather stripping, double walls and floors, insulated walls and ceilings, and storm windows are very important. Protection of windows from glare is desirable but not important.

Entrance protection.—For the front entrance, a roof over the door is the minimum needed protection, and an enclosed entry or a hall is desirable. The same protection is needed for the rear entrance. Outside stairs should have a roof and should be enclosed, at least on the storm side.

Heating.—Central heat is highly desirable. If this is not practicable, individual stoves or room heaters should be provided for living room, dining room, and bathroom. Overflow heat from adjoining rooms will meet the minimum requirements for bedrooms, washroom, and laundry. If there is no central heat or if a coal or wood range is not used in the kitchen, there should be supplementary heat.

Dining areas.—One of the following arrangements will be found suitable: (1) A dining area in the kitchen used regularly by the family, with space for seating from one to three extra persons and some other dining space for use on special occasions. (2) A dining space in the kitchen and a dining room, as in the first arrangement, and a dining porch large enough to accommodate crews of men.

Laundry.—The space for laundry work should be weathertight, and there should be provision for drying clothes indoors.

Storage.—Fuel should be stored under cover. Screens must be stored in winter, and storm windows in summer. Provision for the proper care of heavy outdoor clothing in winter and in summer is important. Perishable foods are kept in cellars, basements, springs, running water, and ice boxes supplied with ice cut locally. Proper storage should be provided for between 300 and 400 quarts of canned food for a family of from four to six persons.

Play space for small children.—There should be a suitable place indoors, a playroom or space in the basement or attic. Outdoors, there should be a safe place in the yard and also a surfaced space for use when the ground is damp. A covered place, such as a porch, is desirable for snowy or rainy days.

Porches, decks, and terraces.—Provisions for outdoor living are not very important. Open porches are usable in summer for various purposes. A place for loading and unloading cars under cover is needed. Outdoor sleeping quarters for summer use only, a living porch, and a dining porch for occasional use are desirable. All porches used regularly in summer should be screened.

REGION I

Eastern portion of the Dairy Belt, excluding the colder northern New England and Adirondack sections and including the dominantly dairy region of southeastern Pennsylvania and of adjacent Maryland

Climate.—Cold season: Moderately cold, some snow, much cloudy weather. Warm season: Long periods of warm weather, usually frequent rains.

Major land uses.—Hay and pasture, oats and wheat locally; corn for grain, forage, and silage; fruit, truck, and tobacco locally; and forest products, especially in the mountains.

Description of farming.—This is a humid region characterized in general by hilly to mountainous topography. There are, however, many fertile lowlands and valleys, notably the Ontario shore counties of New York, the Connecticut Valley of southern New England, and a number of intermountain valleys of Pennsylvania and West Virginia. The land is also level to gently rolling on the lake plains of northern Ohio. Dairying is the dominant industry, but there are many fruit and truck farms, particularly in western New York, in the Hudson River Valley, in New England, and also along Lake Erie and in the southern Appalachian portion.

Occupational status of families and types of farm enterprise.—Except for a few renters most of the families are owner-operators on dairy, diversified, truck, fruit, poultry, and part-time and self-sufficient farms. There are also year-round and seasonal laborers.

Type of house.—Houses usually have more than one story. Most of them are of frame construction, but log, brick, and stone houses are also found. Some of the largest stone houses in the country are found in the valleys of Pennsylvania, and some of the largest frame houses in southern New England. A large proportion of the farm-houses are over 50 years old. There is a wealth of inspiration for modern houses to be found among the early architectural styles of this region. These include the small frame or stone cabins of West Virginia, the Pennsylvania stone farmhouse, the Greek revival house of eastern Ohio and New York, the Dutch colonial style of southeastern New York and northern New Jersey, and the fine early colonial houses of the New England States. With such precedent there is little excuse for the many mediocre houses which are being constructed today in this region. In southern New England, New York, and New Jersey a relatively large number of farmhouses are provided with electricity and running water. Winter comfort is important in planning the orientation of the house. Regular farm help is usually lodged in the family dwelling.

Protection of interior.—Double walls and floors and insulated ceilings are very important. Houses should also be weather stripped and have insulated walls and storm windows. Protection of windows from glare is desirable but not important.

Entrance protection.—At both front and rear entrances a roof over the door is needed and an entry is desirable. Outside stairs should have a roof and be enclosed on the storm side.

Heating.—Central heat is highly desirable but minimum requirements can be met in the living room and dining room by a fireplace

and overflow heat from adjoining rooms. In the bathroom a room heater is desirable. In bedrooms, halls, washroom, and laundry overflow heat alone will suffice. The most common arrangement for heating the kitchen and cooking is a coal or wood range with a supplementary cook stove for warm-weather use. If central heat or a coal or wood range is not used, additional heat is needed for cold weather.

Dining areas.—One of the following arrangements will be found suitable: (1) A dining area in the kitchen used regularly by the family, with space for seating from one to three extra persons, and some other dining space for use on special occasions. (2) A dining space in the kitchen and dining room as in the first arrangement, and a dining porch large enough to accommodate crews of men.

Laundry.—The space planned for laundry work should be weather-tight, and there should be provision for drying clothes indoors.

Storage.—Fuel should be stored under cover. Screens must be stored in winter and storm windows in summer. Proper care of heavy outdoor clothing in winter and in summer is important. Perishable foods are kept in cellars, basements, springs, running water, and ice boxes supplied with ice cut locally. Space should be provided for the storage of between 300 and 400 quarts of canned food for a family of from four to six persons.

Play space for small children.—There should be a suitable place indoors, a playroom or space in the basement or the attic, well heated, ventilated, and lighted. Outdoors, there should be a safe place in the yard, and also a surfaced space for use when the ground is damp. A covered place, such as a porch, is desirable for rainy days.

Porches, decks, and terraces.—For general use houses should have one or two porches open on at least two sides. A place in which to load and unload cars under cover and a work porch for summer use are needed. Sleeping quarters outdoors for summer use, a living porch, and a dining porch for occasional use are desirable. All porches used regularly in summer should be screened.

REGION J

Corn and Winter Wheat Belt, including the eastern portion of the
Hard Winter Wheat Belt of Kansas and Oklahoma

Climate.—Cold season: Moderate temperatures, except in mountains; frequent rains, except in western portion. Warm season: Long periods of heat and hot nights, high humidity, and frequent rains, except in more westerly portion.

Major land uses.—Pasture, hay, corn, tobacco, wheat, oats, fruit, and truck. Forest products in the mountains.

Description of farming.—This is a region of humid climate, except that it is subhumid in the western hard winter wheat portion, and is in general characterized by hilly topography. There are many fertile limestone valleys and basins, and the western hard winter wheat portion is an area of fertile soils. A majority of the farmers live on small farms which probably are more self-sufficient than those in any other part of the United States.

Occupational status of families and types of farm enterprise.—Most of the families are those of owner-operators, with renters on tobacco farms in particular. There are also year-round laborers.

Type of house.—Both winter and summer conditions should be taken into consideration in planning farmhouses. It is not so important, however, to take the precautions necessary to obtain comfortable living conditions as in the areas to the north and south. More freedom is possible in planning room arrangements. Excellent precedent for designs exists in the eastern portion. The finest examples of the early Pennsylvania stone farmhouse are to be found in southeastern Pennsylvania, Delaware, and northern Maryland. In southern New Jersey are some very interesting old frame and brick houses with many characteristics of their own. Southern Maryland and Virginia have many fine Georgian plantation houses, also excellent examples of more modest brick and frame farmhouses. In Kentucky there are many early houses worthy of study. Some of the frame and stone cabins in the mountainous areas have a great deal of charm and should not be overlooked as a source of inspiration. In the western portion of the region the houses tend to be more utilitarian and less interesting in appearance. The majority of the houses have more than one story, although many of the newer houses are one-story frame bungalows of inferior design. Lodging for farm help is not usually furnished by the employer in his dwelling.

Preferred room uses.—Four-room house: Kitchen-dining room; living room, used also as a bedroom when needed; two bedrooms. Five-room house: Kitchen; dining room; living room, used also as a bedroom when needed; two bedrooms. If it is necessary to use one room as both bedroom and living room, it is usually the parents' bedroom.

Protection of interior.—Insulated ceilings are important. Double walls and floors are needed, and protection from glare. Storm windows, weather stripping, and insulated walls are desirable but not essential.

Entrance protection.—For the front entrance, a roof over the door is sufficient. For the back, a roof over the door is important, and a closed entry or hall is desirable.

Heating.—Direct heat is needed in the living room and dining room and is desirable in the bathroom. If central heat or individual stoves are impossible, fireplaces supplemented by overflow heat from an adjoining room are satisfactory for the living and dining room. Overflow heat from some room heated by a stove or central heater is desirable for bedrooms, halls, washroom, and laundry. For the kitchen a coal or wood range gives the heat needed. A supplementary cook stove that will not heat the kitchen is desirable for summer use.

Dining areas.—One of the following arrangements is suitable: (1) A dining area in the kitchen used regularly by the family, with space for seating from one to three extra persons; some other dining space for use on special occasions; and a dining porch used regularly in warm weather by the family, with the same seating capacity as the dining area in the kitchen. (2) A dining room used for all meals in cool weather and a dining porch used for all meals in warm weather (no meals served to farm laborers).

Laundry.—In many households the washing is done outdoors during most of the year.

Storage.—Perishable foods are kept in cellar, basement, spring, running water, and ice boxes supplied with ice cut locally. Space for the storage of from 400 to 500 quart jars of canned food should be provided for a family of from four to six persons.

Play space for small children.—The most important provision is a safe place out on the ground. However, a playroom or space in the basement or attic, well heated, ventilated, and lighted, is desirable.

A covered place outdoors, such as an open porch, is also desirable.
Porches, decks, and terraces.—Porches open on at least two sides are suitable for general use. A screened work porch for summer use is an important convenience. A living porch, a dining porch for occasional use, outdoor sleeping quarters for summer use only, and a place for loading and unloading cars under cover, are needed. The dining porch and sleeping porch when suitably constructed may be used throughout the year. All porches used regularly in summer should be screened.

REGION K

Cotton Belt

Climate.—Cold season: Mild temperatures, much rain except in far-western section. Warm season: Long periods of heat and high humidity, many hot nights, usually frequent rains.

Major land uses.—Cotton, corn, tobacco, annual legumes, and sirup crops, with fruit and truck locally.

Description of farming.—This is a region in which one-half to three-fourths, sometimes a larger percentage, of the farms are operated by tenants or croppers, and many owners of the land live in the cities and villages. The climate is in general mild in winter but with freezing temperatures to be expected frequently; the summers are moist and warm, except that in the extreme western portion the climate is subhumid. The lay of the land varies. It is generally level to undulating in most parts of Texas and Oklahoma, also in the alluvial bottoms of the rivers, notably the Mississippi; it is rolling to steeply rolling in the Piedmont Plateau in the east, and even in some sections of the Coastal Plain. The soils from eastern Texas to North Carolina are in general poor to fair in innate fertility, having been leached of most of their soluble salts by the heavy rains of centuries. A notable exception is the bottom land of the Mississippi and tributary rivers, in which the soils consist of alluvium derived largely from the semiarid Great Plains region. In the prairies of Texas and Oklahoma the soils are also much more fertile, but drought is more frequent than to the east. In the eastern Cotton Belt (east of the Mississippi) soil productivity is greatly increased by the use of fertilizers.

Occupational status of families and types of farm enterprise.—Most of the families are those of owner-operators of small farms, with a few plantation managers and plantation owners, tenant-renters, croppers (many of whom move every year), and wage laborers.

Type of house.—The early styles of architecture throughout this re-

gion constitute good precedent for modern houses. While the styles of the larger plantation houses, many of which are of the Greek revival period, are not particularly adaptable to modern farmhouse design, there are many smaller one-story houses that may well serve as inspiration for modern homes. Most of the houses are built of wood. Those occupied by tenants and croppers are usually very small, containing only two or three rooms, even in the richest areas. Most of the houses of the plantation owners are well built and of excellent architecture. Summer comfort is of the greatest importance in planning both the design and the orientation of the house. Open plans and high ceilings, which permit free circulation of air, are desirable. Farm help is not lodged in the family dwelling.

Preferred room uses.—Four-room house: Kitchen; living-dining room, used also as a bedroom when needed; two bedrooms. Five-room house: Kitchen; dining room; living room, used also as a bedroom when needed; two bedrooms. In this region, if it is necessary to use one room as both bedroom and living room, it is usually the parents' room.

Protection of interior.—Insulated ceilings and protection from glare are the most important considerations. Weather stripping, insulated walls, and double walls and floors are also desirable. Doors and windows should be placed so as to create drafts. Window sills should be low. Transoms over doors and windows, and ceiling fans are important.

Entrance protection.—For the front entrance, a roof over the door is all that is needed, and the back entrance needs only a covered stoop or porch. To protect outside stairs, a roof is desirable.

Heating.—Sufficient heat for the living room and dining room is furnished by fireplaces and overflow heat from the kitchen if a coal or wood range is used. Without such a range a heating stove is needed in one of the living rooms so as to supply heat to the other rooms. Some heat is necessary in the bathroom. A cook stove that will not heat the kitchen is desirable for summer use.

Dining areas.—One of the following arrangements is suitable: (1) A dining area in the kitchen for the family and from one to three additional persons, some other dining space for use on special occasions, and a dining porch used regularly during warm weather by the family and large enough to accommodate from one to three additional persons. (2) A dining room used for all meals in cool weather and a dining porch used for all meals in warm weather (no meals served to farm laborers). (3) A dining space in the kitchen for household help and possibly for a small number of farm laborers, and a dining room for all family meals.

Laundry.—In many households the washing is done outdoors during most of the year.

Storage.—Provision for storing perishable foods during summer is very necessary. Space for a refrigerator in or near the kitchen should be allowed in all house plans. Pantries connected with the kitchen are a usual feature of houses in this region. Because basements are not economical, the pantry should be insulated and ventilated. Such a pantry also accommodates home-canned foods, which are often put up in tin. The average family of from four to six persons cans between 200 and 300 quarts a season. In houses that

have pantries, the space in kitchen cabinets can be reduced to accommodate only small, open packages of supplies.

Play space for small children.—The most important provision is a safe place out on the ground. It is desirable that there should also be for outside play a covered place, such as an open porch. A playroom or a suitable place in the basement or attic is useful for indoor play.

Porches, decks, and terraces.—Provisions for outdoor living are essential. A living porch, sleeping quarters, and a work porch for summer use are needed. All porches should be screened and open on at least two sides. There should be a place in which to load and unload cars under cover. Terraces are useful, and properly designed outdoor sleeping quarters with a roof can be used throughout the year.

REGION L

Humid Subtropical Crops Belt

Climate.—Cold season: Mild temperatures, moderate amount of rain. Warm season: Long periods of warmth, high humidity, frequent rains.

Major land uses.—Corn, grazing and forest products; locally, rice, sugar cane, fruit, truck, tobacco, and cotton.

Description of farming.—This is a region characterized by humid climate, with notably heavy thundershowers in summer, low-lying, level land, much of it needing drainage to be available for agriculture, and soils that vary in fertility from the fertile alluvium of the Mississippi Delta to the almost sterile sands of other portions. It is a region of mild winters, almost free from freezing temperatures, and of warm humid summers. The climate is generally too moist in the autumn to compete successfully with the region to the north in the production of cotton, and this disadvantage has been augmented by the coming of the boll weevil, large numbers of which survive the mild winters.

Occupational status of families and types of farm enterprise.—Families are those of owner-operators on diversified farms and fruit and truck farms, plantation managers, plantation owners, tenants, and wage laborers.

Type of house.—Types of construction suitable to this region are similar to those in region K. Early architectural styles differ somewhat. The French influence is noticeable in southern Louisiana, and the Spanish in southern Florida and Texas. One-story houses of frame construction are most prevalent. Basements and attics are rare. An undistinguished bungalow type of architecture is widely used. The Louisiana and Texas portions of this region have the richer soils and many modern houses. This is also true of the fruit and truck districts of Florida; but in northern Florida, southern Georgia, and southern Mississippi there are thousands of very poor farmhouses, many costing little more than \$100 to build. Houses should be oriented for the greatest possible comfort during periods of extreme warmth, and they should be designed to provide the maximum circulation of air.

Preferred room uses.—If it is necessary to use one room as both bedroom and living room, it is usually the parents' room.

Protection of interior.—Insulated ceilings and protection from glare are very important. Other desirable features are double walls and floors, insulated walls, and weather stripping. As in the Cotton Belt, doors and windows should be placed so as to create drafts. Window sills should be low. Doors and windows should have transoms, and ceiling fans are used.

Entrance protection.—All the front entrance needs is a roof over the door, and the back needs only a covered stoop or porch. A roof over outside stairs is desirable.

Heating.—Little artificial heat is needed. None is essential in bedrooms, halls, washrooms, or laundries. The living room and dining room should have some heat, such as a fireplace affords. The bathroom also needs some heat, but the kitchen seldom requires any. If a coal or wood range is provided for winter use there should also be a supplementary cook stove for hot-weather use.

Dining areas.—One of the following arrangements will be found suitable: (1) A dining area in the kitchen for the family and from one to three additional persons, a dining space for use on special occasions, and a dining porch used regularly during warm weather, accommodating from one to three extra persons. (2) A dining room used for all meals in cold weather, and a dining porch used for all meals in warm weather (no meals served to farm laborers). (3) A dining space in the kitchen for household help and possibly a small number of farm laborers, and a dining room for all family meals.

Laundry.—In many households the washing is done outdoors during most of the year.

Storage.—Provision for the storage of perishable foods in summer is very necessary. Space for a refrigerator in or near the kitchen should be allowed in all house plans. A pantry connected with the kitchen is a usual feature of houses in this region, and should be insulated and ventilated. It provides storage space also for home-canned foods, which are often put up in tin. The average family of from four to six persons, however, cans less than 200 quarts a season. In houses that have pantries, the space in kitchen cabinets need accommodate only small packages of supplies.

Play space for small children.—A safe place out on the ground is the most important consideration. If possible, there should also be a covered place, such as an open porch, and a paved or graveled space in the open for use when the ground is damp. Inside the house, a playroom is desirable, whether in a special room or in the basement or attic.

Porches, decks, and terraces.—Houses should have open porches for sleeping, living, dining, and work purposes. Construction that permits the dining porch to be used throughout the warm season and the work porch and sleeping porch all the year around is desirable. A place in which to load and unload cars under shelter is very useful. All porches, including the living porch, should be screened. In fact, unless sleeping, dining, and work porches are screened, they are hardly usable at certain times of the year.

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